



Jordanian Civil Defence Directorate

Spec. No.	94
Spec. date	27/8/2015
Spec. for	FIRE FIGHTING VEHICLE (FULLY EQUIPPED)
Scope	To be used for firefighting purposes

The following notes should be considered :-

1. Technical offers should explain each item required in our form below in details (comply, provided, included, refer to.....etc)
2. Any technical details presented in the financial offers will not be considered by the technical study committee
3. Technical offers will be studied according to the answers and comments. Which have to be filled in our specification form below.
4. Any required technical data should be approved by original catalogs for the products (not copy), so the original catalogs should be submitted.
5. All the details mentioned in the specification form shall be considered obligatory.

	Required Specification	Tenders specification
1	a) Manufacturer : to be mentioned (for chassis & superstructure)	
	b) Brand name: to be mentioned(for chassis & superstructure)	
	c) Origin: to be mentioned (for chassis &superstructure)	
	d) Model No. : to be mentioned	
	e) Manufacturing date: brand new for both chassis & body.	
2	<i>DIMENSIONSS AND WEIGHT</i>	
	a. Overall length : To be mentioned	
	b. Overall width : To be mentioned	
	c. Overall height : To be mentioned	
	d. Wheel base : To be mentioned	
	e. Ground clearance : To be mentioned	
	f. Gross vehicle weight (GVW): To be mentioned. Distribution, front axle load, rear axle load: to be described in details and must provide by sketches.	
	g. Approach and departure angle: to be mentioned.	
	H. Gradiability: to be mentioned. Gradiability curve to be submitted.	
3	<i>CHASSIS</i>	
	a) Mode of drive : 4x4	
	b) Steering : Left hand drive, power assisted.	
	c) Engine :	

	1) Type: diesel engine with turbo charger & inter cooler	
	2) Power output: not less than 320 Hp at suitable RPM Performance chart to be submitted.	
	3) Stroke and no. of cylinders: 4 cycles.6 cylinders or more	
	4) Engine electronic controlling and injection mechanism to be described in details	
	5) Cooling system : water cooled	
	6) Air cleaner: dry paper element.	
	d) Transmission	
	1) Type: automatic shift.	
	2) Gearbox: to be described in details.	
	3) P-T-O for the water pump and hydraulic winch.	
	e) Cabin	
	1) Type : forward control with original double cabin	
	2) Fabrication: all steel welded with 4 doors with windows	
	3) Tilt : power assisted tilt system (manual in addition to electric is preferable)	
	4) Seating capacity: 5 + 1 people.	
	5) Safety belts: for all seats	
	6) Air-condition (hot/cold).	
	f) Shock absorber : telescopic, hydraulic or air - hydraulic acting type	
	g) Suspension system: to be mentioned.	
	h) Brake	
	1) Service : hydraulic, air-over-hydraulic, or full-air	
	2) Engine brake (exhaust brake)	
	3) Parking brake: pneumatic system or mechanical system with spring cylinder.	
	4) Additional brake safety systems (ABS, ASR, EBL,ESP....etc): to be mentioned.	
	i) Electrical system	
	1- Battery and its capacity: to be mentioned	

	2- Alternator (V/A), output power: to be mentioned.	
	3- Durable closing mechanism for battery box.	
	j) Tire (on/off road)	
	1) Size, brand name& manufacturing date (not to exceed 12 month from vehicle manufacturing date), to be mentioned.	
	2) Spare : Qty (1) , mounted, to be loaded and unloaded easily with suitable mechanism without obstructions for working on vehicle.	
	3) Tire monitoring system: to be mentioned.	
	k) Fuel	
	1) Kind : diesel.	
	2) Tank capacity: To be mentioned (tank should be original from chassis manufacturer without any modifications).	
	3) Jordanian diesel standards compatibility. Emission class to be mentioned.	
	4) Fuel consumption: to be mentioned for all conditions in chart.	
	5) Provided with heating element for fuel filter.	
4	<i>SUPERSTRUCTURE</i>	
	BODYWORK	
	1) One box for rear body to allow maximum accessibility to Water tank, compartments and pump site.	
	2) The body frame should be fabricated from high quality aluminum or any equivalent material (thickness to be specified) .	
A	3) Foldable steps around the vehicle to ease access to the compartments and equipment with a load capacity around 200 Kg.	
	4) The top of the superstructure should be decked with heavy- duty grip, and plated tread suitably strengthened and designed against distortion or damage from any unforeseen impacts.	
	5) The upper deck should be equipped with a handrail, made of light material for safe operation.	

	6) Suitable access to the roof by means of ladder. (Non-slip square steps) and made of light material, located at the rear of the vehicle.	
	7) Separate Compartments (five compartments) for each type of equipment with suitable fixing facilities with sliding drawers (if needed) to safely and easily retain objects.	
	8) Weather and dust-proof aluminum roller shutters should be provided with rugged type handle.	
	9) The compartments must be supplied with LED night work and Illumination, operated automatically when the shutter is opened.	
	10) All compartments and shelving should be provided with sufficient drain holes to prevent accumulation of water.	
	11) All tools on the top of the vehicle must be fixed with a suitable fixing mechanism.	
B	WATER TANK	
	1) Tank capacity: 5000 lit.	
	2) The tank should be made of high quality steel , speacialy treated and protected against corrosion.(design and material specification, thickness and grade for "top,bottom, walls&buffles", to be described in details)	
	3) internally I nstalled five baffle plates, suitably protected against corrosion and deterioration, And should ensure easy access for maintenance purposes inside the tank. <i>Thickness to be determined in details.</i>	
	4) Manhole with a closing cap on top of the tank, to ease access for inspection and routine maintenance as following: - Cylindrical shape. - Closing cap height 15 cm from the top of the tank. - Diameter to be specified in details.	
	5) Overflow pipe acts as a (pressure/vacuum) vent as well.	
	6) Fitted with a graduated content level indicator.	
	7) Two hydrant-filling ports, one on each side (LH and RH side) with (2.5") BS male coupling and female blank cap, equipped with a valve.	
	8) Drain valve at suitable position at the bottom of the tank, with a piping to	

	facilitate complete removal of accumulated sediment.	
	FOAM TANK	
	1) Tank capacity: 500 lit.	
	2) The tank should be made of high quality steel , speacialy treated and protected against corrosion.(design and material specification, thickness and grade for "top,bottom,4 walls&buffles", to be described in details)	
C	3) Manhole with a closing cap on top of the tank, to ease access for inspection and routine maintenance as following: - Cylindrical shape. - Closing cap height 15 cm from the top of the tank. - diameter to be specified in details.	
	4) Overflow pipe acts as a (pressure/vacuum) vent as well.	
	5) The tank should be equipped with level indicator.	
	6) Foam filling mechanism: foam pump with all facilities to be described in details.	
	7) Drain valve at suitable position at the bottom of the tank, with a piping to facilitate complete removal of accumulated sediment.	
D	WATER PUMP (pump performance chart to be provided) A certificate showing the approval that it can be used as a mobile fire pump to be submitted. The pump (RPM) at the desired (flow and pressure) must be specified in the performance curve of the water pump, also the possible RPM that can be supplied to the pump from the engine (PTO) and the speed ratio for PTO.	
	Manufacture, model and origin to be mentioned.	
	1) High and low pressure: Should be multi- stage centrifugal pump	
	2)coupled to the vehicle's engine via PTO	
	3) Low pressure output: rated flow 2800 lit. /min. at 10 bar at 3 meters NPSH minimum.	
	4)High pressure output: rated flow 250 lit. /min. at 40 bar at 3 meters NPSH minimum.	
	5) Suction lift: to be specified (preferable to be as high as possible).	

	6) Pump shaft should be made of stainless steel (Grade, diameter and thickness) to be specified.	
	7) Pump casing and impellers made of bronze or aluminum	
	8) Priming system: Auto priming system.	
	9) The pump should be fitted with the following connections :	
	a. 4" suction complete with BS coupling and blank cap	
	b. 2.5" BS female instantaneous coupling as an outlet complete with valves and blind cap. Q'ty (4)	
	c. Key pulling hoses .	
	d. Tank filling/suction.	
	e. Drain valve at suitable location.	
	f. Waterway for the dual-purpose monitor on the roof deck.	
	f. Qty. (1) first-attack high pressure hose reel, not less than 50m length, 25 mm diameter. At the rear of the vehicle	
	1. Electric and manual hose rewinding mechanism.	
	2. The hose should be equipped with multipurpose nozzle (jet and fog).	
	3. Throwing range: not less than 25 meter for straight stream.	
E	Foam mixing system	
	1-Type : around pump , proportional type.	
	2- Foam classes: suitable for any type of Foam.	
	3- mixing ratio : 1,2,3,4,5 and 6%.	
	4- All foam and solution lines should be constructed to prevent corrosion.	
	5- Having the ability to suck foam from external Container (source) with all suction facilities.	
F	Foam and water monitor:-	
	1- Manually controlled, dual-purpose foam/water (monitor installed on the top deck of the vehicle).	

	2- Horizontal range: (0-360)degrees.	
	3- Vertical range : (-15 up to 75) degrees.	
	4- Deflector allowing straight and flat stream patterns.	
	5- Water /Foam mixture : not less than 2000 lit./min up to 2800lit/min.	
	6- Throwing distance:	
	a- Water: not less than 50m up to 60m.	
	b- Foam : not less than 25 m up to 45 m.	
G	CONTROLS: control panel should be located at the rear of the vehicle , and should include the following indicators and controllers :	
	1) Water pump compound pressure gauge.	
	2) Water pump discharge pressure gauges.	
	3) Foam tank contents level indicator.	
	4) Water tank contents level indicator.	
	5) (Water tank filling\suction) control valve.	
	6) Hose reel control valve.	
	7) Control valve for roof monitor.	
	8) Water pump revolution gauge and controller.	
	9) Working hours counter.	
	10) Foam mixing controller.	
	11) Illumination for night operation.	
	12)any other necessary controllers and indicators for optimum operation to be mentioned	
5	ATTACHMENT	
	a- front hydraulic winch: {all the winch components and accessories designed according same working load (i.e. 6 ton) }	

1. driven via PTO (should have the ability to drive the winch & the pump at the same time)	
2. Minimum pulling capacity (6) tons at bottom rope layer.	
3. Pulling capacity at top rope layer: to be mentioned.	
4. 50 m wire rope with hook	
5. having a facility to operate manually	
b- snow blade:	
1) Snow blade manufacturing must be from well-known company.	
2) to be fitted on the front bumper of the vehicle	
3) Hydraulically operated.	
4) Fixing, removing, and controlling of the snow blade must be mentioned in details. The details also must show the capability of vehicle to handle such blade.	
5) to specify the mechanism of fitting snow blade with the front winch together on the front bumper (if it's possible) taking into consideration that there is no obstruction in operation, if there is no possibility specify in details mounting & dismounting for both (snow blade & front winch).	
c- lifting bag set with all necessary accessories (Pneumatically operated via compressed air cylinders).consists of the following :	
Manufacture, model and origin to be mentioned.	
1- Lifting Bags	
a- capacities: Approx. (10, 20, 30,40,60) tons.Qty : One of each	
b- Nominal content (air and water content) for all sizes to be mentioned.	
c- Dimension (LXWXH) for all sizes to be mentioned.	
d- Weight for all sizes to be mentioned.	
e- Max. inflation height for inflatable part of the bag to be mentioned. (it is preferable to be the same height at edges and center of the bag)	
f- Inflation time: to be specified (as short as possible).	
g- Material:	

- Multi layer reinforced construction	
- Flame resistant	
- Oil resistant	
- Wear and chemical resistant	
- Anti-slippery surface.	
- working temperature range (to be specified).	
- storage temperature range (to be specified).	
2- Air Cylinder	
a. Working pressure (200 - 300 bar)	
b. Nominal content (water content) min 10 liter.	
c. Test pressure to be specified.	
d. Suitable base at the bottom of cylinder to facilitate working while the cylinder in standing position.	
3- Inflation Hoses.	
a. Hose length: min .10 m QTY(3)	
b. Working pressure of 8 bar minimum.	
c. Hose diameter to be specified	
d. Quick connect quick release couplings with lock.	
4- Pressure Reducer.	
a. Suitable for 200 bar or 300 bar air pressure supply.	
b. Supplied with two gauges	
c. Adjustable	
5- Dual Controller.	
a. Dead man handle	
b. Operating two bags simultaneously.	
c. Provided with two safety valves.	
d. Provided with two pressure gauges.	

	6- Shut-off hose with safety valve for each supplied bag	
	a. Allows pressure to be reserved in disconnected air bag.	
	7- General.	
	a. All the above-mentioned components should be stored in a suitable storage box.	
	b. Catalogs for use, maintenance and spare parts for each component should be provided.	
6	<i>EQUIPMENT</i>	
	a. Suction hose with BS instantaneous coupling (4" X2.5m) mounted on the roof Q'ty (4)	
	b. Suction strainer with basket Q'ty (1)	
	c. Rope for suction hose handling (10mm X 10m) Q'ty (1)	
	d. Nozzles: 1) Variable water nozzle with 2,5" BS instantaneous coupling Q'ty (2) 2) Foam nozzle : - Q'ty (1) for the hose reel - Q'ty (2) medium expansion - Q'ty (1) low expansion	
	e. Pick-up type tube foam mixing device Q'ty (1)	
	f. Divider& Collector: - 2.5" Divider with BS instantaneous coupling Q'ty (1) -2.5" Collector with 2.5" BS instantaneous coupling Q'ty (1)	
	g. Rescue rope 70 m long with minimum diameter of 12 mm Q'ty (2)	
	h. search light and electrical system • Electric generator (230V) driven via gasoline engine. • Manufacturer, Model and origin to be mentioned • 4 stroke engine , electric and manual starting) • Rated output power not less than 5KVA. • Qty (2) sockets . • All necessary electric adapters for equipment optimum Operations	

	should be provided.	
	i. Light mast :	
	Manufacturer, Model no. and brand name: to be mentioned	
	Origin: to be mentioned.	
	1) Minimum 7m height from the ground .	
	2) Adjustable search light, Min of (1000) watt each (preferable to be white color). Q'ty (2)	
	3) 360° rotation manually.	
	4) Lifting and lowering time: to be mentioned. (35sec-45 sec)	
	5) Pneumatically operated	
	6) weather proof	
	j. Portable search light set :	
	1) Search light (Min of 500 watt each) Q'ty (4)	
	2) Cord reel, not less than 50 m long. Qty (2)	
	3) Tripod Q'ty (2)	
	k. Hand spot light, minimum of (2) working hours, rechargeable from external source. Q'ty (4)	
	l. 230V inlet socket from commercial source for vehicle battery charging.	
m. VENTILATION UNIT:		
Manufacturer, Model no. and brand name: to be mentioned. Origin: to be mentioned.		
1. Driven by gasoline engine. 2. Hp: not less than 5 hp. 3. Fan diameter: approx. 450 mm. 4. Unit Dimensions : to be mentioned 5. Air movement in (cubic feet / minute) : to be mentioned 6. Frame of the unit to be constructed of either steel or aluminum (preferable to be aluminum).		

	<p>7. Blades to be constructed of either steel or aluminum (aluminum is preferable)</p> <p>8. The unit should be supplied with flexible air ducts:</p> <ul style="list-style-type: none"> Qty (2) , approx. 10 meters long each The unit to be designed to attach each duct to outlet side of the fan. ❖ It's preferable that the two ducts have the possibility to be conducted with each other in case the length of the only one is insufficient . <p>9. Light weight, portable, with carrying handles.</p> <p>10.The unit should be equipped with front and rear safety guards, designed to prevent accidental contact with the blades.</p>	
n.	High intensity reflective vest Q'ty (6)	
o.	<p>a complete set of breathing apparatus Qty (4)/ to be used by firefighters. with suitable fixing mechanism on the back of the front seats to ease operating (fixing mechanism to be described in details)</p> <p>-with (4) spare cylinders.</p> <p>-breathing apparatus set to be with the following specifications :</p>	
	1- 200 –300 bar cylinder and valve assembly :-	
	a) Light weight, made of high quality material.	
	b) Water capacity of 6 liters	
	c) Free gas capacity (to be mentioned).	
	d) Weight (to be mentioned)	
	e) Plug-in manifold for regulator and flexible hose for content gauge and warning whistle.	
	f) Cylinder valve fitted with a safety-locking device.	
	<p>2- Full face piece assembly :</p> <p>A mask and balanced demand valve of positive pressure type, inserted valve of plug-in type.</p>	
	3-Pressure reducing regulator of two stage type.	
	<p>4-Harness and back frame assembly for supporting the equipment on the body of wearer consist of :</p> <p>a- Easily adjustable wide padded shoulder straps; and waist belt.</p>	

	b- Individually pivoting shoulder and waist strap give maximum ease of movement distribution. c- Ergonomically shaped "open type" carrying frame for comfort and to increase ventilation.	
	5-Plug-in manifold regulator and flexible hose for content gauge and warning whistle (any other safety devices should be mentioned)	
	6-Should be approved by the international standards (NFPA, EN), with approval certificate	
	7-All design features of SCBA assemblies should be specified in details.	
	8-With all catalogs and user manual both printed and on a (CD) or video tape	
	9-Catalogs for use, maintenance and spare parts for each component should be provided.	
p	Fire suit set Q'ty (5) specification as following :	
	1 - Jacket and Trousers as the following	
	a-Available in different sizes: to be specified	
	b-Color : black or dark blue	
	c-With high intensity reflective twin straps on front and back	
	d-Made of NOMEX III or PBI Gold	
	e-Multi layers configuration	
	f-Good thermal insulation	
	g-Rips, wear, punchers, abrasion and mildew resistance	
	h-Water proof	
	i-Breathable moisture barrier	
	j-Easy to wear	
	k-Knees and pants cuffs	
	l-For the jacket : 1)Comfortable over lapping collar 2)With a zipper and a Velcro closure over it for the jacket	

3) 5 Pockets (one for radio ,two on the chest and two on the west)	
4)Shoulders and elbows reinforced with extra layer of outer shell	
m-For the Trouser : provided with removable x-shap suspender pads	
n-Should comply with (EN 469 or NFPA 1971) and a certificate of approval to be submitted with the technical offer	
2 -Firefighting boots , as following	
a-Waterproof leather, breathable	
b-Size : different sizes, available sizes to be specified	
c-With textile lining	
d-Leg length: (25 – 30) cm	
e-Color : black with high intensity reflective strap	
f-Steel toe cap and reinforced sole	
g-Boot straps on both sides , Without zip	
h-Sole : 1-rubber shell 2- Oil and fuel resistant 3-Anti skid tread 4-Shock absorbing	
i-Foot bed: 1- Anatomically formed 2- Exchangeable 3- Washable 4- Good moisture absorption 5- Short drying time	
3 - Safety belt :	
a-Width not less than 3 inches	
b-Provided with hook and 1 m rope attached to the belt	
4 - Helmet :	
a-Suspension: Center of Gravity adjustment system	
b-Face shield with thumb wheel adjustments.	

	c-Easy-to-adjust, quick-release chin strap with postman's slide.	
	d-NOMEX III covers for neck / ear protection.	
	e-Color: yellow	
	5 – hood	
	a-To be used to protect the ear and the neck area from heat	
	b-To be suitable with the supplied helmet	
	c-Made from NOMEX III or equivalent	
	d-Single layer	
	e-Seals tight around face and SCBA masks	
	f-Elastic enclosure allows easier donning	
	g-Seamless chin area	
	h-Should be approved by any international standard with certificate of approval	
	i-Size: different sizes, available sizes to be mentioned	
	6 - Fire man Gloves .	
	a-Five finger type	
	b-Fire retardant and good thermal insulation	
	c-Easily grasped fine objects, and provide secure grip during operation	
	d-Breathable with inner lining	
	e-Size: different sizes, available sizes to be mentioned	
	7 – General for firefighting suits.	
	a-Instruction sheet(catalog if available)about cleaning and storage for each item should be provided	
	b-All above mentioned items should comply with up- to-date standard (NFPA 1971 or equivalent EN standard) with certificate of approval for each Item.	
q	ELECTRIC INSULATING GLOVES	.
	a. Manufacturer: to be mentioned	

b. Brand name: to be mentioned.	
c. Origin: to be mentioned.	
d. Model No.: to be mentioned.	
e. Five fingers type (pair).	
f. Length: to be mentioned.	
g. Thickness : not less than (1 mm)	
h. Maximum use voltage : not less than (1000 VAC)	
i. Testing AC voltage in (kv): to be mentioned.	
j. Leakage current in (mA): to be mentioned.	
k. Electrical gloves should combine high dielectric and physical strength with flexibility and durability.	
l. Comfortable to wear.	
m. Each glove should be consists of two parts : 1- Inner glove made of high electric insulating rubber: to be specified. 2- Outer glove leather: to be specified.	
n. Have a good Ozone resistant.	
o. Flexible at low temperatures (approximate limit of low temperature to be mentioned).	
p. Have a good resistance for high temperatures	
q.The following parameters should be complied by worldwide international approval standards (approval standards should be submitted). 1. Tensile strength. 2. Elongation at break 3. Mechanical punctures. 4. Tension rest.	
r.different sizes (to be specified in details), the suitable sizes of gloves should be determined by the concerned department during purchasing order.	
s.should be meet (ASTM) or (OSHA) regulations (certificates should be submitted).	
t.glove inflator kit should be provided for easy glove inspection before using it.	

	u.the supplier should provide technical warranty for at least one year.	
	vThe supplier should guarantee re-testing gloves each six months by authorized reference to ensure electrical safety for the user.	
r	Delivery hoses : - 2.5"X25m delivery hose with 2.5"BS instantaneous coupling Q'ty (6) - 1.5" X25m delivery hose with 2.5" BS instantaneous coupling Q'ty(6)	
7	TOOLS :	
	a) Light-alloy extension ladder (3 sections, total length approx. 9m) mounted on the top of the vehicle with suitable brackets. Q'ty (1)	
	b) Rod cutter with cutting capacity of 14 mm diameter Q'ty (1)	
	c) Fire axe and Multipurpose axe Q'ty (1) each	
	d) Hammer (5kg) Q'ty (1)	
	e) Shovel (sharp type) Q'ty (3)	
	f) Fire pike and Fire bar Q'ty (5)	
	h) Dry chemical powder extinguisher (6kg) Q'ty (2)	
	i) CO2 extinguisher (6kg) Q'ty (2)	
	j) stainless-steel lever Q'ty (2)	
	j) Hydraulic rescue tools (Multipurpose hydraulic rescue tool set (heavy duty) includes :	
	1) Power unit (working pressure not less than 600 bar up to 750 bar).	
	2) Combi tool (cutter and spreader) (working pressure not less than 600 bar up to 750 bar).	
	3) Ram set.	
	4) Steering cutter.	
	5) Manual pump	
	6) Chains and all accessories	
	7) Hydraulic hoses with reel (not less than 25mlong)	

8	ACCESSORIES	
	a) Standard chassis tool set to be specified in details Q'ty (1) set	
	b)Standard body tool set to be specified in details Q'ty (1) set	
	c)Wheel stopper Q'ty (2)	
	d) Tire chain with suitable bags. Q'ty (1)set	
	e)Vehicle color: red with yellow high intensity reflective strip around the vehicle.	
	f) Hose bridges Q'ty (2)	
	g) Spare parts, workshop manuals for both chassis and superstructure should be supplied. (Qty 3 sets + CD for spare parts).	
	h) Protection guards for head light, beacon, stop light and the illumination in the compartments.	
	i)Hydraulic Jack with its all-necessary tools.	
	j) Use and maintenance manual for chassis and superstructure /each vehicle.	
	k) Fog Light in the front Q'ty (2)	
9	GENERAL	
	a) Mobile radio installation requirements : 1. suitable location on console 2. dimensions (H* W* D) : (60 * 185 * 75) dash and desk models (radio + control head) 3. Electrical source 12V-DC/ 15 A. Antenna Tetra Combined and GPS GMAE4248 A model (380- 430 MHz), fixed over the cabin with GPS, RF cables as a connection from the antenna to the mobile radio.	
	b) The company should hold High quality maintenance and operation technical training courses for our engineers& technicians to be able to make gear overhaul and engine overhaul.	
	c) The company should hold High quality technical training course for engineers and technicians on chasses for firefighting operations and maintenance for all tools in the superstructures.	

	d) All sketches and drawings with all details as crew cap, all dimensions and locations of all equipment, components and any other necessary details must be submitted.	
	e) Providing a list of recommended spare parts for the chassis and superstructure.	
	f) Supplier should guarantee supplying of spare parts (Min. of 10 years from time of delivery).	
	g) Red multi-flash beacon light (cone type) Q'ty (2)	
	h) Electric siren with public address system (different tunes)Q'ty (1) set	
	i) Search light : (not less than 70 w each) , one located on the cab, the other one located at the rear , working via vehicle electricity complete with all necessary cables and fittings	
	j) Supplier should provide international approval certifications and catalogs for all equipment above.	

10	Options at an extra price	
	{the supplier should insure providing a suitable compartments with all needed accessories to fix and store these options (either the options are provided or not)}	
	<i>CAR GPS (NAVIGATION) with the following aspects :</i>	
	a) Display size : 5"	
	b) Display type : WQVGA color TFTwith backlight	
	c) Battery: rechargeable lithium-ion Battery(life:upto 3 hrs)	
	d) Battery charging system as follow: 6- 240 ac/dc charger. 7- charging through vehicle electricity	

	e) High-sensitivity receiver	
	f) Base map : cover all Jordan	
	g) Ability to add maps	
	h) Compatible with NAVTEQ maps	
	i) Internal memory	
	j) Recording feature (to be described in details)	
	k) Accepts data cards : SDTM card Data card to be supplied (minimum of 2 GB)	
	l) Waypoints / favorites / location :1000 or more	
	m)2D , and picture in picture navigation views	
	n) Auto re-route (fast off –route and detour recalculation)	
	o) Choice of route setup (faster time ,shorter distance ,off road)	
	p) Route avoidance (avoid highways, tolls etc.)	
	q) Speed limit indicator (displays speed limit for most major roads)	
	r) Where Am I? (find closest hospitals , police & gas stations, nearest address and intersections)	
	s) Qwerty or ABC keyboard (layout)	
	t) Arabic language	
	u) Custom POIs (ability to additional points of interest)	
	v) Picture viewer	
	w) Touch screen	

x) USB port	
y) The system must be installed in a suitable location in the console.	
z) All Necessary accessories for optimum installation and operation should be supplied	
aa) Update the maps and software yearly , for minimum of five years	
bb) Full catalogues	
cc) The supplier should hold an operation and technical training course	
dd) Minimum of three years warranty	

العقيد المهندس	رئيس شعبة الدراسات	رئيس قسم مواصفات الاليات	رئيس قسم مواصفات المعدات	رئيس فرع مواصفات آليات العمليات	رئيس فرع مواصفات آليات إدارية	الوكيل المهندس
مدير الدراسات والأبحاث والتطوير	الرائد المهندس	ملازم 1 مهندس	ملازم 1 مهندس	ملازم 2 مهندس	ملازم 2 مهندس	مريم محمد الربيع
محمد عوض الفلانة	أحمد نزال الشلول	عنود زياد الشنتير	فاطمة غازي يونس	محمد تيسير النواصرة	معتز حكم عريبات	

مصدق
الواء
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